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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/851,247 | 05/09/2001 | Michael T. Rossi | A7966 | 3007 |

7590 12/17/2003
SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, NW
Washington, DC 20037-3213

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| EXAMINER |
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PAK, SUNG H

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| ART UNIT | PAPER NUMBER |
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2874

DATE MAILED: 12/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/851,247 | ROSSI ET AL. | |
| | Examiner | Art Unit | |
| | Sung H. Pak | 2874 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24, 26-37 and 39-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-14 is/are allowed.
- 6) ☒ Claim(s) 15-24, 26-35, 37, 39-44 is/are rejected.
- 7) ☒ Claim(s) 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's amendment filed 9/23/2003 has been entered. Claims 1-24, 26-37, 39-44 are now pending. All pending claims have been carefully reconsidered in view of the arguments set forth in the amendment. Arguments regarding the patentability of independent claim 1 and its dependent claims are convincing, and the claims are allowed. However, independent claims 15, 29 and their dependent claims are still unpatentable. Claim 15 is rejected on the same ground of rejection set forth in the prior office action, but claim 29 is rejected on a new ground of rejection. Therefore, this office action is non-final.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 15-16, 18, 20-21, 23-24, 26-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Risch et al (US 6,085,009) as stated in the prior office action.

Risch et al (US 6,085,009) had been cited in prior office actions.

Regarding claim 1, Risch et al reference discloses an optical fiber with all the limitations set forth in the claims, including: an outer layer ("20" in Fig. 1); at least one optical fiber disposed inside the outer layer ("14" in Fig. 1); at least one gel-swellaable portion (a buffer tube) proximate to an inner surface of the outer layer ("12" in Fig. 1); a water resistant gel positioned adjacent to the gel-swellaable portion and disposed between the outer layer and the optical fiber (column 3 lines 4-7); the gel-swellaable buffer tube being composed of impact modified polypropylene (i-PP) (column 5 lines 29-51).

Regarding claims 16, 20, Risch et al discloses that at least one gel-swellaable portion is a buffer tube that runs along the longitudinal length of the fiber cable (column 2 line 64-column 3 line 3, and column 5 lines 29-51).

Regarding claim 21, Risch et al discloses plurality of gel-swellaable buffer tubes (Fig. 1).

Regarding claim 24, Risch et al discloses that the buffer tubes are copolymers of polyethylene (column 3 line 10).

Regarding claims 15, Risch et al discloses that i-PP buffer tubes swell more than 10% at 85°C in various water blocking gels (Fig. 2).

Regarding claims 26, 27, Risch et al discloses that the water blocking gel is polyolefin oil based gel (Fig. 2).

Claims 29-30, 32, 34, 44 are rejected under 35 U.S.C. 102(b) as being anticipated by Saller et al (US 5,031,996).

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Saller et al reference was cited in the information disclosure statement.

Saller et al reference discloses an optical fiber cable with all the limitations set forth in the claims, including: an outer layer ("AHA"); at least one optical fiber ("LW"); a water resistant composition (thixotropic agent + hydrocarbon oil + thickening agent = i.e. gel) disposed between the at least one optical fiber and the outer layer ("FC", column 2 lines 35-36); at least one gel-swellaable portion proximate to one of an inner surface of the outer layer and an outer surface of the optical fiber ("AHI", column 2 lines 65-66); wherein the gel-swellaable portion is made from a material softer (E-modulus lower) than one of said inner surface and said outer surface to which the gel-swellaable portion is proximate to (column 2 lines 62-63, column 3 lines 18-19).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 17, 19, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Risch et al (US 6,085,009) as stated in the prior office action.

Risch et al reference discloses an optical fiber with all the limitations set forth in the claims as discussed above, except it does not explicitly state that the buffer tubes may have grooves or be corrugated. However, it would have been an obvious matter of design to have grooves on the buffer tubes, since applicant has not disclosed that grooves on the buffer tube solves any stated problem or is for any particular purpose (see page 10 of the instant application) and it appears that the invention would perform equally well without the grooved buffer tubes.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Risch et al device to have grooved buffer tubes.

Claims 31, 33, 35, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saller et al (US 5,031,996).

Saller et al reference discloses an optical fiber with all the limitations set forth in the claims as discussed above, except it does not explicitly state that the buffer tubes may have grooves or be corrugated. However, it would have been an obvious matter of design to have grooves on the buffer tubes, since applicant has not disclosed that grooves on the buffer tube solves any stated problem or is for any particular purpose

(see page 10 of the instant application) and it appears that the invention would perform equally well without the grooved buffer tubes.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Saller et al device to have grooved buffer tubes.

Claim 42 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saller et al (US 5,031,996).

Saller et al reference discloses an optical fiber cable with all the limitations set forth in the claims as discussed above, except it does not disclose the use of optical fiber ribbons. However, optical fiber ribbons are well known and commonly used in the art. Fiber ribbons provide a well-known advantage over the individual fibers, because they allow for plurality of optical fibers to be organized in a smaller given space. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Saller et al devices to use fiber ribbons instead of individual fibers. It would have been desirable to have dense fiber optic cables.

Claims 37, 39, 40, 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saller et al (US 5,031,996) in view of Risch et al (US 6,085,009).

Saller et al reference discloses an optical fiber cable with all the limitations set forth in the claims as discussed above, except it does not teach the use of polyethylene

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copolymer gel-swellable portion or polyolefin oil based gel as claimed in the instant application.

Risch et al discloses the use of fiber optic cable having polyethylene copolymer gel-swellable portion and polyolefin oil based gel as claimed in the instant application as discussed above. Risch et al discloses that such materials are advantageous and desirable because it allows optical fiber cables to better maintain their structural integrity (column 2 lines 1-24). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Saller et al device to have polyethylene copolymer gel-swellable material and polyolefin oil based gel.

Response to Arguments

Rejection of claims 15-24, 26-28:

On page 15 of the applicant's amendment, it is argued that Risch '009 reference does not teach "a gel-swellable portion contacting an outer surface of [the] optical fiber" as recited in claim 15. And further, the applicant submits that "it is desirable to avoid contact between buffer tubes and optical fibers."

However, the examiner respectfully points out that the gel-swellable portion "12" of Risch '009 reference will contact the outer surface of the optical fiber "14" (in Fig. 1) because the space between the optical fiber and the gel-swellable portion is occupied by water blocking gel which is NOT solid. As shown in Fig. 1, there is no structural support that prevents the movement of optical fibers "14" within the tube. Therefore, the

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Risch '009 reference fully anticipates the gel-swellaable portion contacting the outer surface of the optical fiber as recited in claim 15 of the instant application.

Allowable Subject Matter

Claims 1-14 are allowed.

Claim 36 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The claims are allowed based on the reasons set forth in the applicant's amendment filed 9/23/2003.

Conclusion

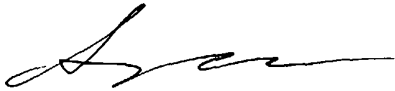
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sung H. Pak whose telephone number is (703) 308-4880. The examiner can normally be reached on Monday - Thursday : 6:30am-5:00pm.

The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

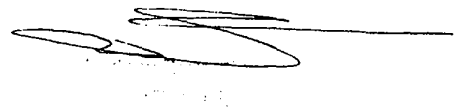
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Sung H. Pak
Examiner
Art Unit 2874

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